

# Penultimate Solar Cell

AM1 Efficiency  
Theoretical: 40%

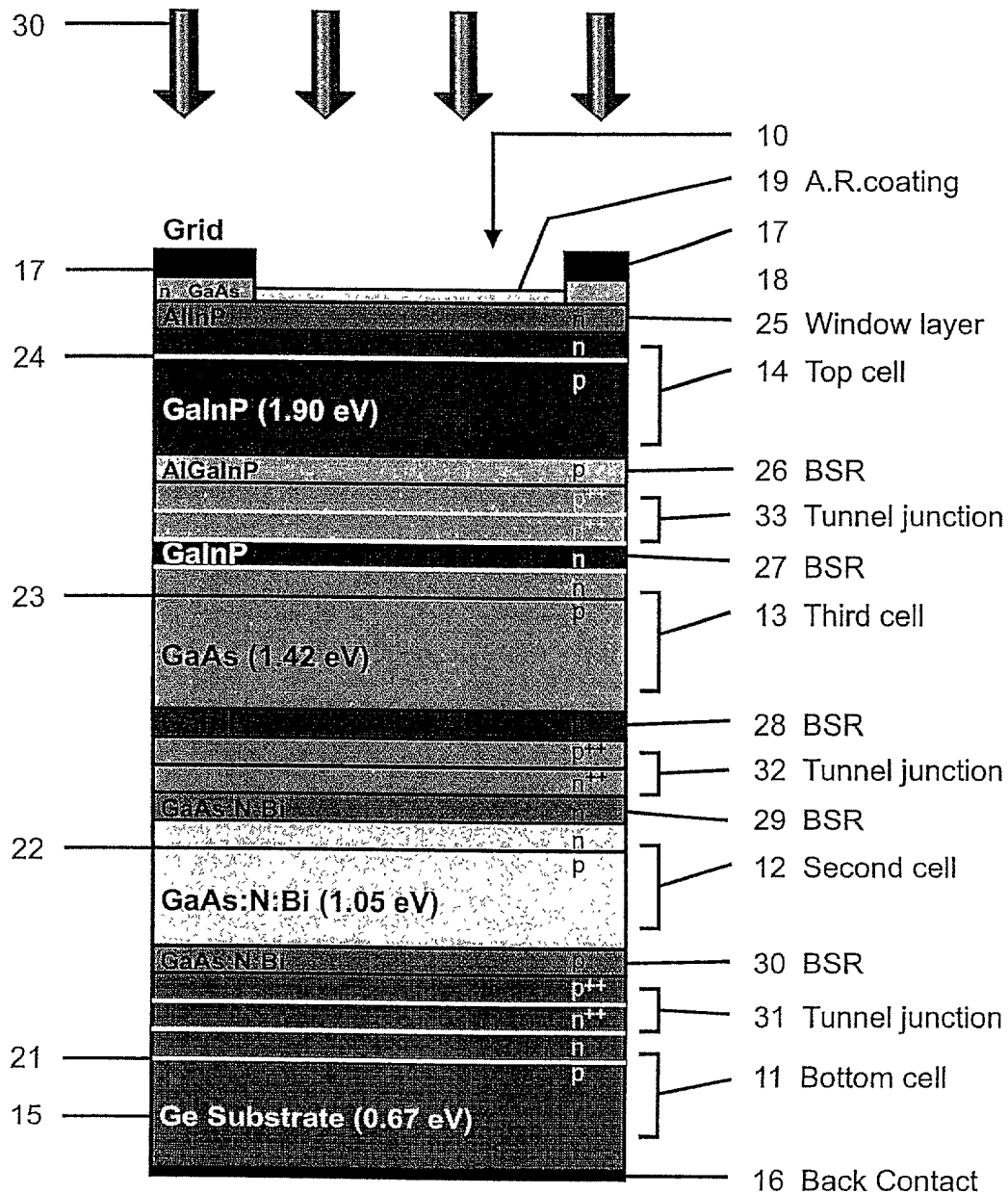


FIG. 1

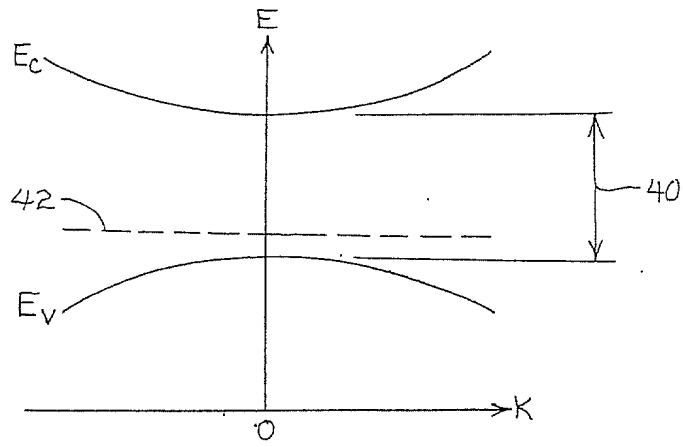


FIG. 2 (Prior Art)

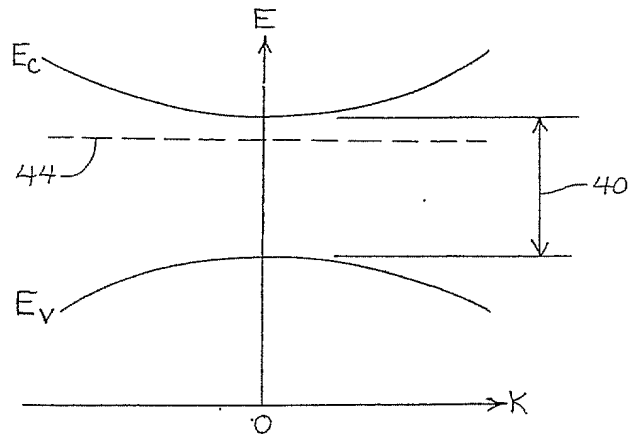


FIG. 3 (Prior Art)

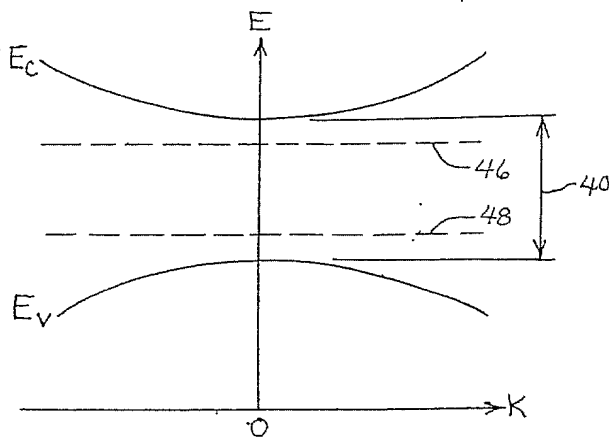


FIG. 4

# Ultimate Solar Cells

AM1 Efficiency  
Theoretical: 36%

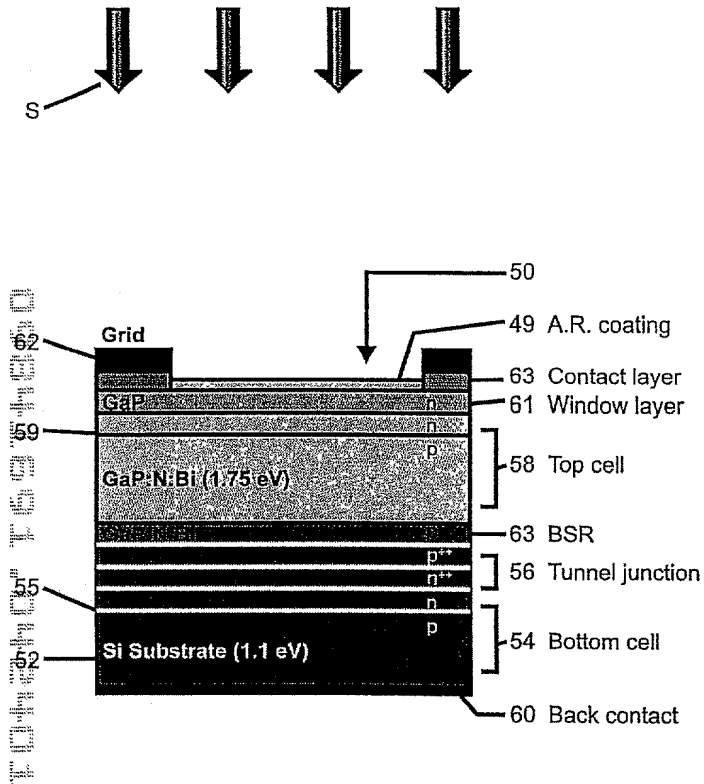


FIG. 5

AM1 Efficiency  
Theoretical: 40%

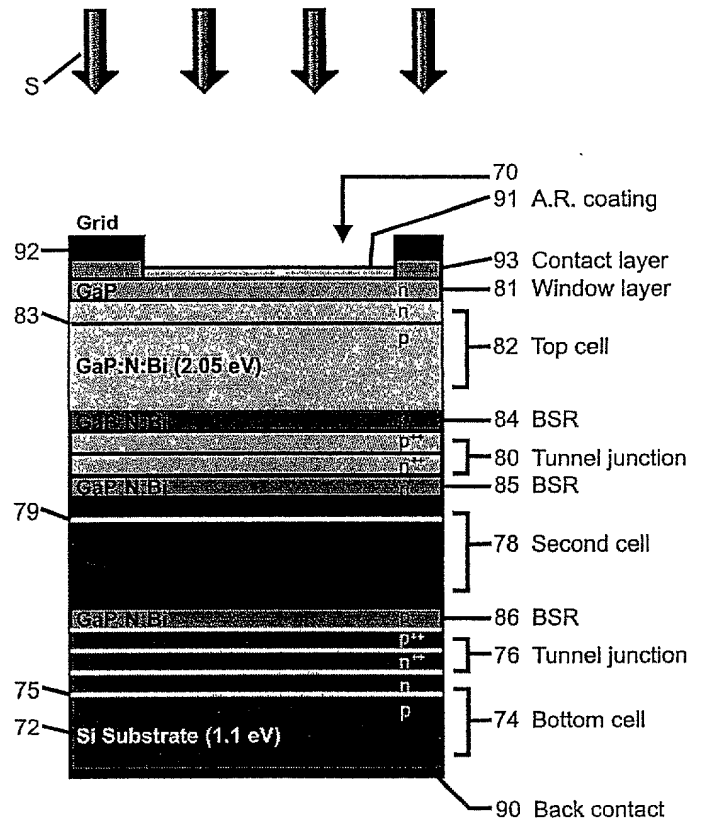
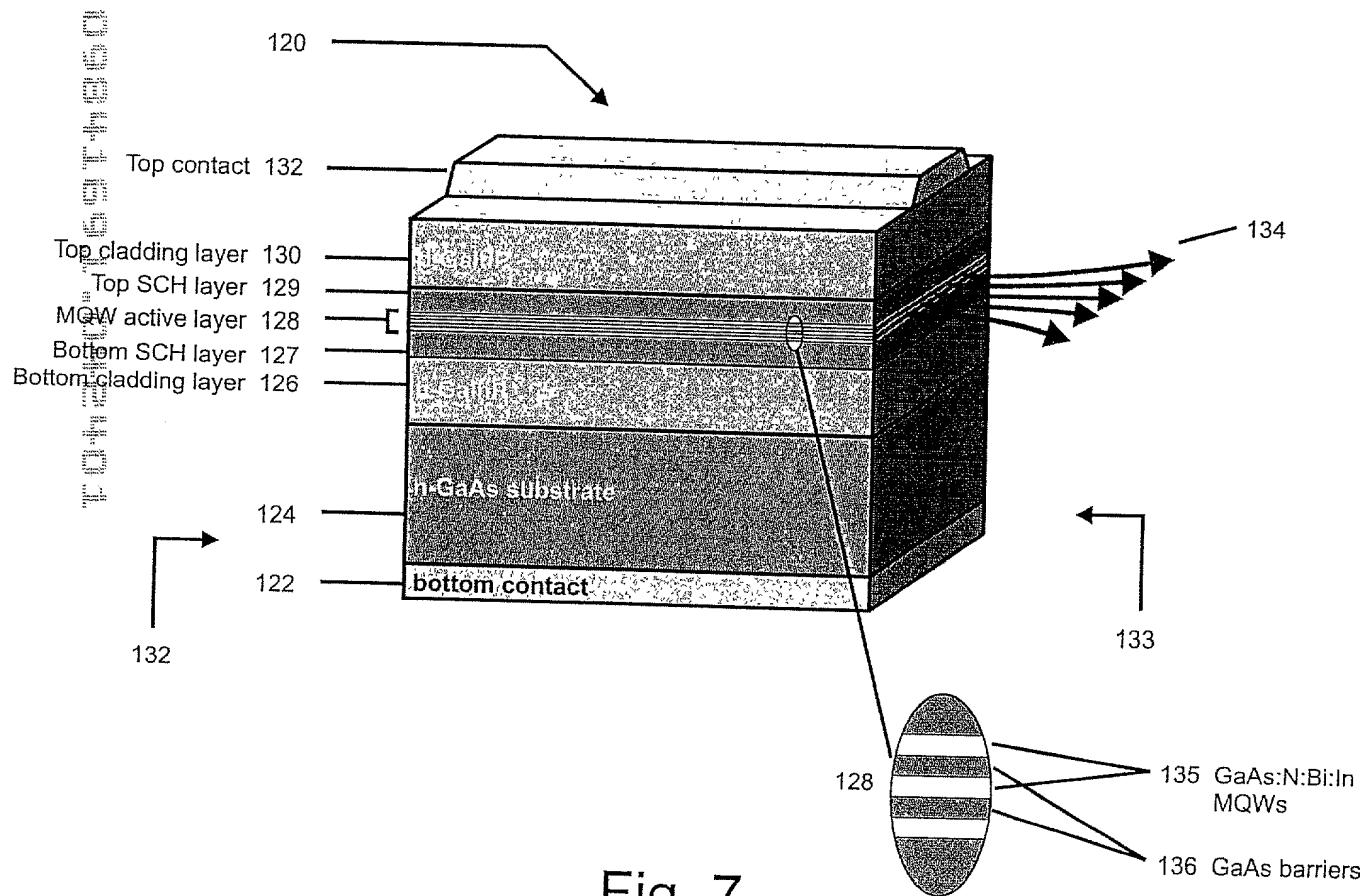


FIG. 6

# GaAs-based Edge-Emitting Lasers

1.55 or 1.3  $\mu\text{m}$  wavelength



# VCSEL

## Lasers for 1.3 or 1.55 $\mu\text{m}$

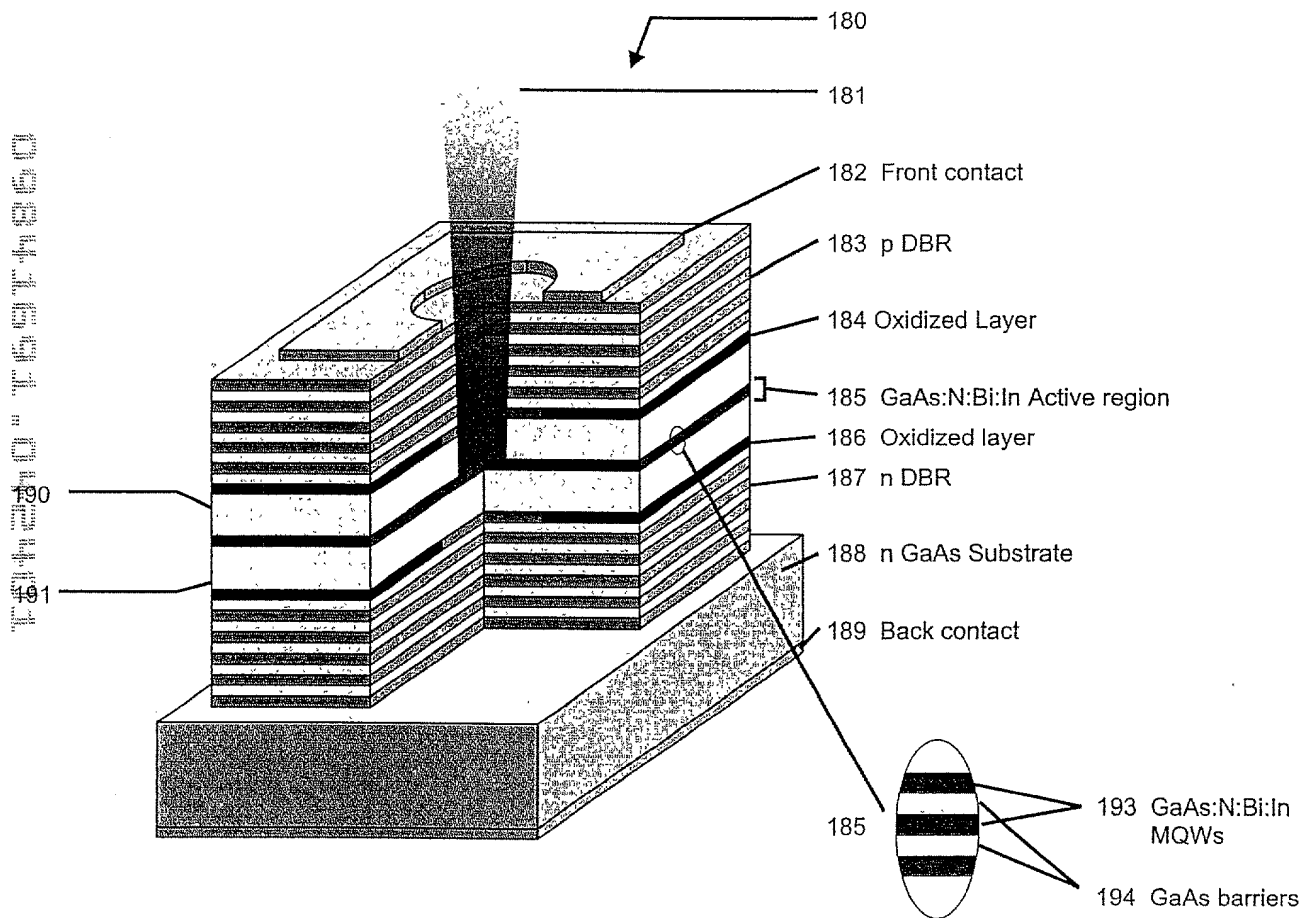


Fig. 8

# High Brightness LEDs

Red / NIR LEDs: 640-800 nm

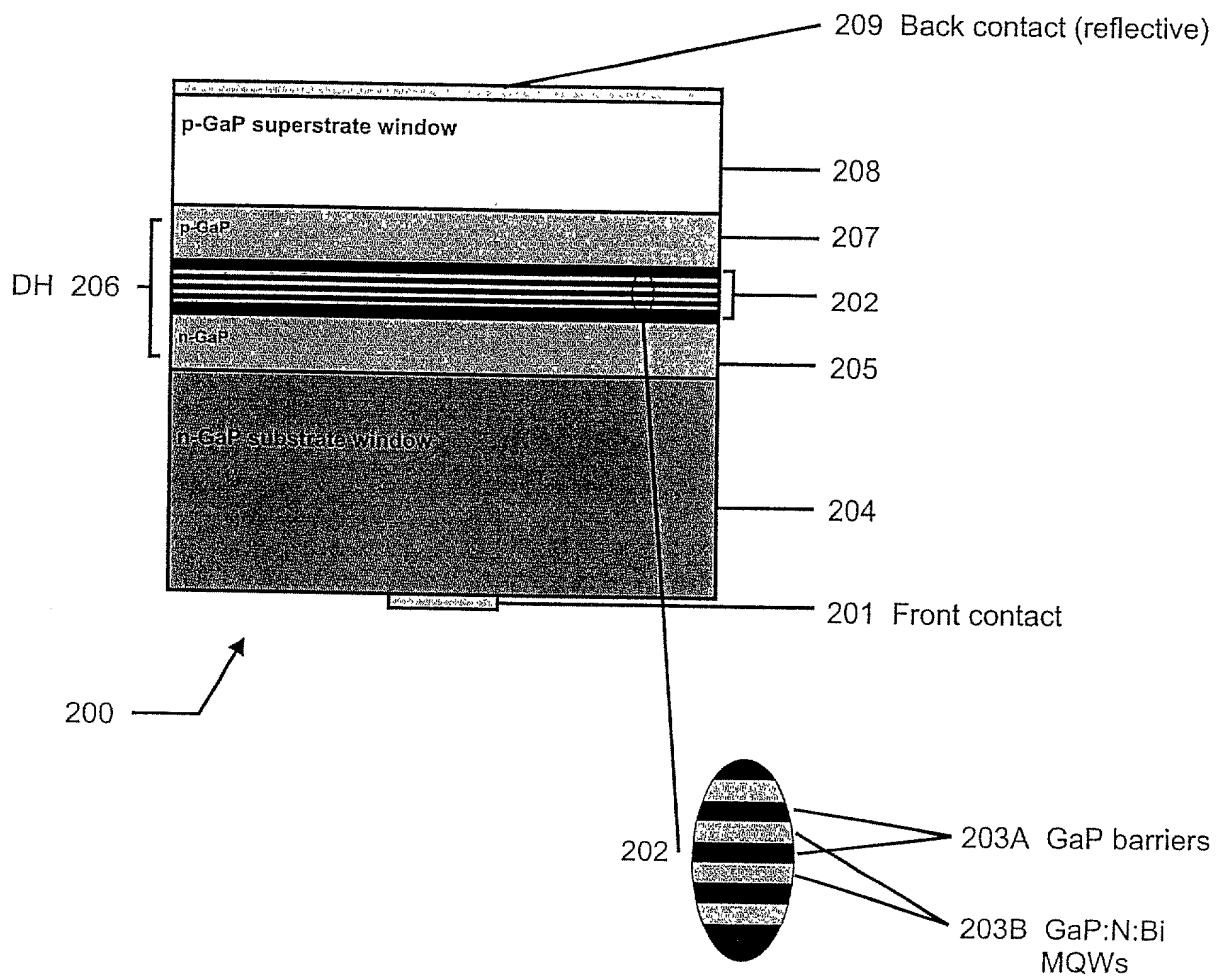


Fig. 9

# Silicon monolithic LEDs

Red / NIR LEDs: 640-800 nm

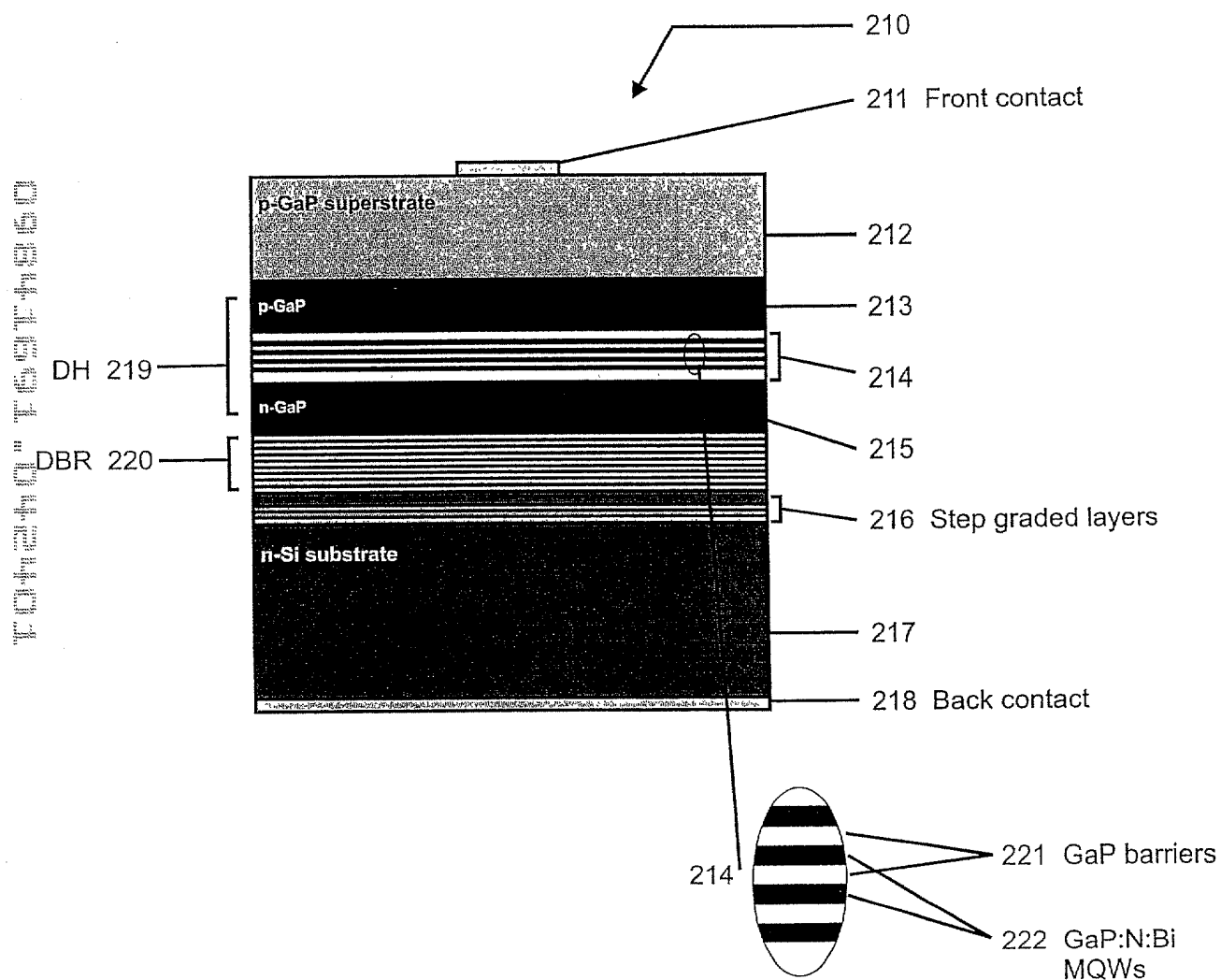


Fig. 10

# GaP based Edge-Emitting Lasers

640 - 800 nm wavelength

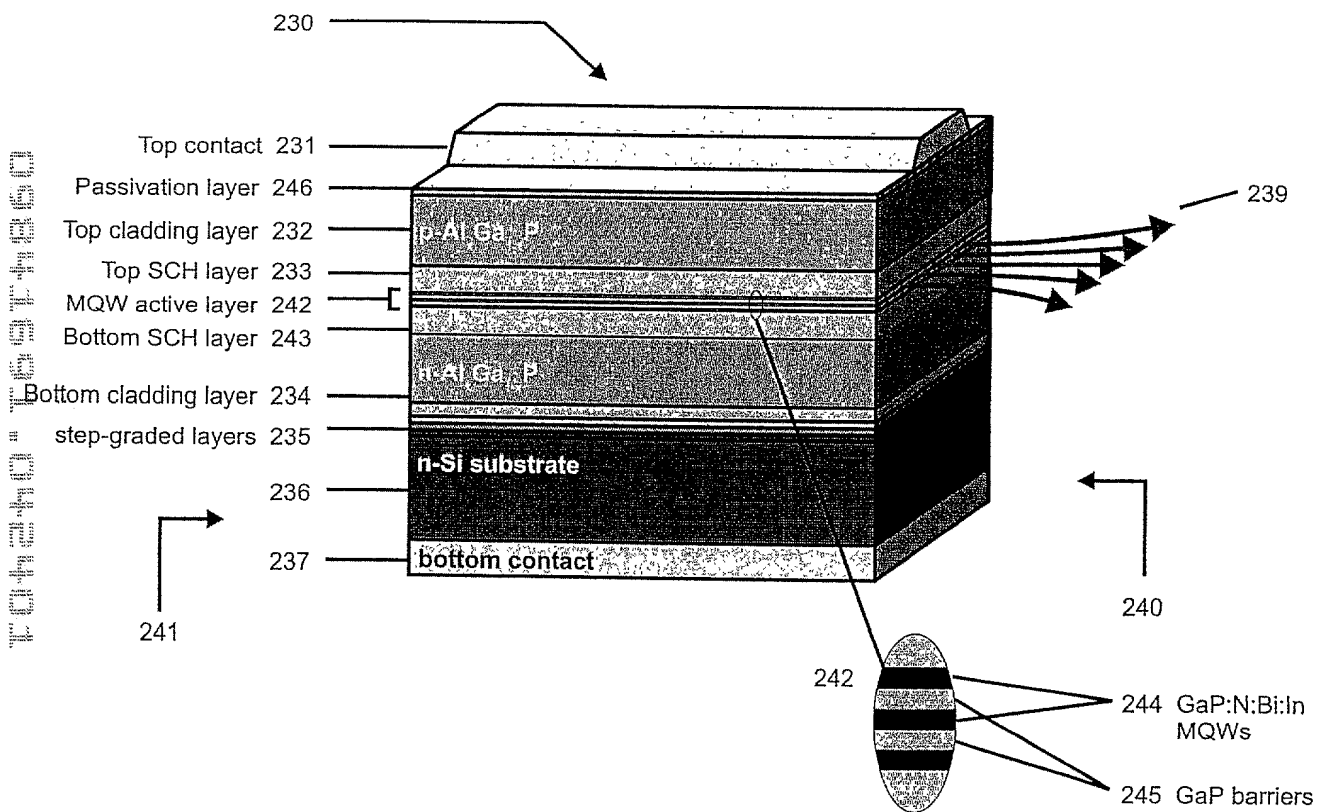


Fig. 11



# Thermo Photovoltaic Solar Cell

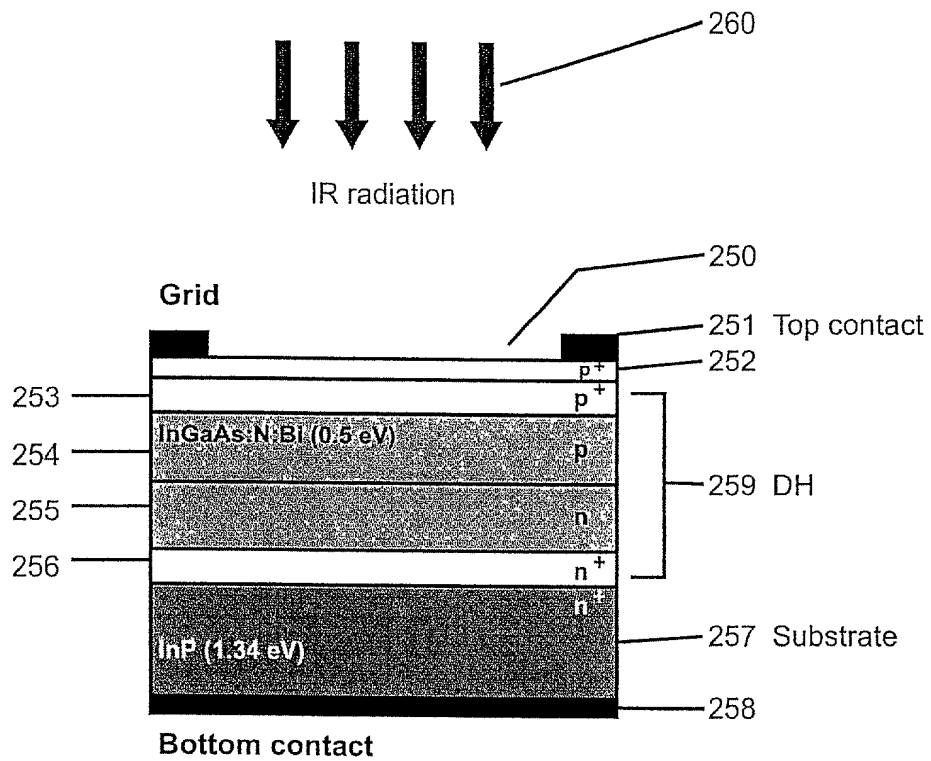


Fig. 12

# Photodetectors

for 1.3 or 1.55  $\mu\text{m}$  wavelengths

Light signals

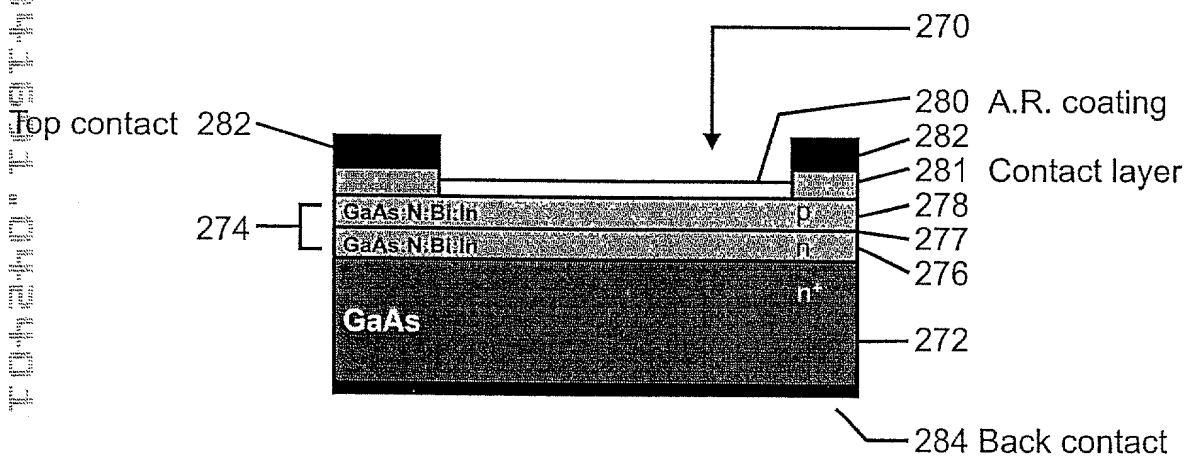
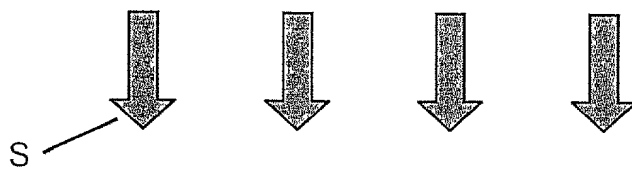


Fig. 13